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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/828,010	04/06/2001	David L. Patton	82462RLO	6397

7590 01/29/2004  
Thomas H. Close  
Patent Legal Staff  
Eastman Kodak Company  
343 State Street  
Rochester, NY 14650-2201

EXAMINER

PATEL, SHEFALI D

ART UNIT	PAPER NUMBER
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2621

DATE MAILED: 01/29/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

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# Office Action Summary

Application No.

09/828,010

Applicant(s)

PATTON ET AL.

Examiner

Shefali D Patel

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 06 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1 and 4 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. Claim 1 recites the limitation "the surface" in step a line 1. There is insufficient antecedent basis for this limitation in the claim.

4. Claim 4 recites the limitation "the ground location" in line 3 of claim 4. There is insufficient antecedent basis for this limitation in the claim.

Claims 2-3 and 5 are rejected for the same reasons as claim 1 since claims 2-3 and 5 depend on claim 1.

### ***Drawings***

5. The informal drawings (Fig. 7), filed in this application on April 06, 2001 are acceptable for examination purposes. When the application is allowed, applicant will be required to submit new formal drawings.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

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having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fuentes (USPN 5,657,003) in view of Del Grande et al. (hereinafter, "Del Grande") (USPN 5,444,241).

With regard to **claim 1** Fuentes discloses a method for capturing at least one image of an existing man-made structure and for detecting the presence of failure(s) in such existing man-made structures (i.e., wall, See col. 2 lines 49-61) comprising the steps of: (a) providing a detectable material (detectable material is the wall itself, the light spot 25 on the wall is being captured by the image sensor 30 and detected) (on the surface or) in an existing man-made structure so that portions of the detectable material will be present in the failure(s) of the existing man-made structure (See, col. 2 lines 59-65; (b) providing an image sensor (i.e., video camera 30) and which captures at least one image of the existing man-made structure and identifies failure(s) due to the existence of the detectable material in the failure(s) to provide at least one digital image (See, col. 3 lines 2-16); and (c) processing the captured digital image(s) to provide a visual image of the existing man-made structure to determine the presence of failure(s) in the existing man-made structure (processing the images captured by the image sensor either by alerting the user (i.e., worker, customer, etc.) or by printing the output showing the presence of failure such as cracks or degradation of the wall and/or structural degradation, See col. 3 lines 16-52). Fuentes does not expressly disclose providing a detectable material on the surface or in an existing man-made structure so that portions of the detectable material will be present in the failure(s) of the existing man-made structure. Del Grande discloses this feature, applying coating on the surface of the man-made structure, at col. 4 lines 29-48). Fuentes and Del Grande are combinable because they are from the same field of endeavor, i.e.,

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detecting failure(s) in a man-made structure. At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine the teaching of Del Grande with Fuentes. The motivation for doing so is that by applying a detectable material on the surface of the structure, the detecting is made accurate and simple process. Del Grande applies coating on the metallic structure so that, when scanned, the temperature is measured accurately. Therefore, it would have been obvious to combine Del Grande with Fuentes to obtain the invention as specified in claim 1.

With regard to **claim 2** Fuentes discloses the image sensor being spaced remotely from the existing man-made structure (video camera or the structure can be located remotely or on-site, See, col. 5 lines 12-15) and further including: (d) sending captured processed digital images with detected failures to a customer (alerting workers, customers, etc. that the structural degradation is imminent using an alarm signal upon detection of movement of the light spot beyond preset parameters, See, col. 3 lines 16-52).

With regard to **claim 3** Fuentes discloses the digital image processing including comparing previously captured digital images with newly captured digital image(s) to determine variations in the captured digital image(s) at predetermined coordinates which indicate a potential failure in the existing manmade structure (See, col. 4 lines 31-57).

With regard to **claim 4** Fuentes discloses the digital image(s) being captured by a capture device which is located in a fixed structure position above the ground location or in a moving structure including an aircraft or satellite (See, col. 5 lines 12-15).

With regard to **claim 5** Fuentes discloses the image processing including storing in memory a representation of different failures to be detected and comparing the captured digital

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image with the failures to determine the presence of a failure, and location of such failure (Col. 4 lines 32-52).

With regard to **claim 6** Del Grande discloses the detectable material (dark coating material on metallic structure) on that interacts with incident radiation to cause radiation from the failure in the existing man-made structure to be detected by the image sensor (See, col. 3 lines 62-65, col. 4 lines 23-42).

With regard to **claim 8** Del Grande discloses the detectable material is included in a liquid solution or solid solution, which is distributed on the failure in the existing man-made structure (coating applied to the metallic structure can be in a liquid solution or solid solution, col. 4 lines 34-40).

With regard to **claims 7, 9 and 10** Fuentes and Del Grande discloses detectable material as mentioned above in claim 1, 6, and 8. However, neither Fuentes not Del Grande discloses detectable material being encapsulated dyes, phosphors, lanthanide, halogen, halide, or cholesteric characteristics. It would have been an obvious matter of design choice to modify the Fuentes or Del Grande's reference by having the detectable materials included herein, since applicant has not disclosed that having this detectable material solves any stated problem or is for any particular purpose and it appears that having detectable materials of encapsulated dyes, phosphors, lanthanide, halogen, halide, or cholesteric characteristics would perform equally well as the coating material used to detect failure(s) in Del Grande's and Fuentes' invention. Applicants' attention is further invited to col. 4 lines 49-62 of Del Grande's invention where change in the orientation based on the thermal equilibrium with the surroundings and thereby exhibit a different color that can be detected by image sensor is disclosed.

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***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

USPN 4,124,990 – adjusting the tension of an underwater pipeline

USPN 5,126,654 – non-invasive, high resolution detection of electrical currents and electrochemical impedances at spaced localities along a pipeline

JP 06-201613 – Automatic Flaw detector with Fluorescent Magnetic Powder

JP 2000-249688 – Wet Fluorescent Magnetic Particle Inspection Method

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shefali D Patel whose telephone number is 703-306-4182. The examiner can normally be reached on M-F 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo H Boudreau can be reached on 703-305-4706. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-0377.

  
**DANIEL MARIAM**  
**PRIMARY EXAMINER**

January 15, 2004

Shefali D Patel  
Examiner  
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